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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jiewen Luo

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EXAMINER

BENOIT, ESTHER

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/537,488	LUO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ESTHER BENOIT	2442	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-12 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-12 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendments***

1. This Action is in Response to an Amendment filed on August 12, 2009. Claims 1 and 14 have been amended. Claim 13 has been cancelled. Claims 1-4, 6-12, and 14 are pending in this application.

### ***Response to Arguments***

2. Applicant's arguments, see Remarks, filed 08/12/2009, with respect to the rejection(s) of claim(s) 1 under 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Slater et al. (US 6,654,796 B1).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 6-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Duvvury (US 6,917,626 B1), in view of Slater et al. (US 6, 654, 796 B1).

**With respect to Claim 1**, Duvvury discloses:

- establishing IP data channels via a cluster management device between network devices in a cluster and a network management device by the cluster management device, wherein at least one of the network devices in the cluster is designated as the cluster management device and configured with a public IP address; the network devices in the cluster are configured and updated with private IP addresses and routes by the cluster management device (Col. 9, lines 53-67 and Col. 10, lines 1-7; Abstract, *where a commander switch is designated and equipped with an IP address, and each member switch having the capability of being configured with its own IP address*);
- managing the network devices in the cluster through said IP data channels via the cluster management device by said network management device (Col. 9, lines 53-67 and Col. 10, lines 1-7; Abstract, *a management station is connected to the commander switch for configuration of the member devices*).

Duvvury does not explicitly disclose the network devices are configured with a data structure that comprises a network type identifying a type of network the device is located on and a physical address identifying a physical address of the network device within the network.

However, Slater discloses the network devices are configured with a data structure that comprises a network type identifying a type of network the device is

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located on and a physical address identifying a physical address of the network device within the network (Col. 14, lines 25-32 and lines 38-48, *where each network device contains a data structure storing a MAC address, IP address, platform name, and host name*)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Duvvury with the teachings of Slater to have each cluster network device equipped with its own information contained in a data structure, *because* it will eliminate the waiting period that it takes for neighboring devices to obtain information regarding a new device added to the cluster.

**With respect to Claim 2**, Duvvury discloses wherein said cluster management device configures and updates other network devices with private IP addresses and routes according to information of topological architecture of the network and device information of the network devices in the cluster (Col. 11, lines 15-27).

**With respect to Claim 3**, Duvvury discloses wherein said cluster management device configures the other network devices with private IP addresses dynamically (Abstract)

**With respect to Claim 4**, Duvvury discloses wherein said cluster comprises a plurality of said cluster management devices, and one of the cluster management devices is responsible for managing the configuration and update of private IP addresses and routes of the network devices in the cluster as well as the communication between said network management device and the network devices in

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the cluster; in case said cluster management device fails, one of the other cluster management devices is designated to be responsible for managing the configuration and update of private IP addresses and routes of the network devices in the cluster as well as the communication between said network management device and the network devices in the cluster, according to a predetermined policy (Abstract).

**With respect to Claim 6**, Duvvury discloses said cluster management device establishes IP data channels via said cluster management device between the network devices in the cluster and said network management device with network address translation technology (Abstract).

**With respect to Claim 7**, Duvvury discloses:

- designating a device in the network as the cluster management device and configuring the device correspondingly by the network management device (Abstract);
- initiating a topology acquisition process to acquire information of topological architecture of the network within a specified number of hops in the network by the cluster management device (Col. 11, lines 15-27);
- designating candidate devices to be added to the cluster in the topological architecture according to the information of topological architecture acquired from the cluster management device, and informing the cluster

management device to start the cluster member device addition process by the network management device (Col. 11, lines 15-27);

- adding the designated candidate devices to the cluster and configures the candidate devices correspondingly by the cluster management device, so as to make the candidate devices become member devices of the cluster (Col. 11, lines 15-27);
- after the cluster is established, managing the member devices in the cluster by the cluster management device, and forwarding management messages which are from outside of the cluster and destined to the member devices through standard Network Address Translation (NAT) process to corresponding member devices to process, and processing the management messages according to normal processing process by the member devices (Col. 11, lines 15-27).

5. Claims 8-12 are rejected under 35 U.S.C. as being unpatentable over Duvvury (US 6,917,626 B1) and Slater et al. (US 6, 654, 796 B1), in view of Dinker, and Poston in view of well known practices in the art.

**With respect to claims 8-12**, the activities recited in claims 8 -13 are well known housekeeping types of activities that are routine in the art and fail to provide any patentable distinction and Official Notice of such is taken. It would have been obvious to have modified the combination of Duvvury, Slater, Dinker, and Poston discussed above

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to include the notorious housekeeping functions as recited in claims 8 - 12 in order to enable, maintain and administer routine management services as was well known at the time.

6. Claim 14 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Choi (US 2002/0040397 A1), in view of Dinker et al. (U.S. 7035858) and further in view of Slater et al. (US 6, 654, 796 B1).

**With respect to Claim 14, Choi discloses:**

- an address translation module, adapted to perform network address translation for management messages of member devices ([0030], *a translation of a private IP address and its public IP address is performed*);
- Dynamic Host Configuration Protocol (DHCP)-like module, adapted to accomplish allocation of private IP addresses to member network devices ([0048], *where IP addresses are requested from DHCP server and given to non-IP devices*);
- a first cluster member management module, which is connected with the address translation module A11, the DHCP-like module A12, and adapted to manage member network devices in a concentrate manner (Figure 3, *first remote device*), and to forward management messages, which are from outside of the cluster and destined to member devices, to respective member devices to process, so that the member devices can process the



management messages according to normal processing process ([0041],  
*a lookup server for managing the plurality of devices*);

- a second cluster member management module, adapted to accomplish cluster management at the member device end ([0037], *a service client for providing access to other devices*);

Choi does not disclose a topological information processing module that includes a first topological information processing module, adapted to detect the topological architecture of network and to acquire the information of topological architecture of network within a specified number of hops in the network; and a second topological information processing module, adapted to accomplish detection of adjacent devices and response/forwarding of topology acquisition requests.

However, Dinker discloses a topological information processing module (Col. 3, lines 63-66, *topology manager*) that includes a first topological information processing module, adapted to detect the topological architecture of network and to acquire the information of topological architecture of network within a specified number of hops in the network (Col. 4, lines 17-36, *one function obtains topology changes in the network*); and a second topological information processing module, adapted to accomplish detection of adjacent devices and response/forwarding of topology acquisition requests (Col. 7, lines 10-37, *another function handles dynamic cluster membership using messages*).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi with the

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teachings of Dinker to have cluster membership handled by a topology manager in order to have cluster membership configuring and updating according to the topological architecture of the network.

Choi and Dinker do not explicitly disclose the network devices are configured with a data structure that comprises a network type identifying a type of network the device is located on and a physical address identifying a physical address of the network device within the network.

However, Slater discloses the network devices are configured with a data structure that comprises a network type identifying a type of network the device is located on and a physical address identifying a physical address of the network device within the network (Col. 14, lines 25-32 and lines 38-48, *where each network device contains a data structure storing a MAC address, IP address, platform name, and host name*)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have combined the teachings of Choi and Dinker with the teachings of Slater to have each cluster network device equipped with its own information contained in a data structure, *because* it will eliminate the waiting period that it takes for neighboring devices to obtain information regarding a new device added to the cluster.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Esther Benoit whose telephone number is 571-270-3807. The examiner can normally be reached on Monday through Friday between 7:30 a.m and 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

E.B.

October 29, 2009

/Shawki S Ismail/

Primary Examiner, Art Unit 2455